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ABSTRACT

This report describes an undergraduate research training program for the academic years 1966-67 and 1967-68, completed by 17 students. As stated in the original application for a grant, the objectives of the program were as follows: (1) To introduce outstanding students to research procedures, (2) to create an appreciation of the role of research in education, (3) to stimulate faculty and students in research activities, and (4) to encourage exceptional undergraduates to pursue graduate education in preparation for a career in educational research. Criteria for candidate selection are presented. The training program is outlined, with a list of course titles and descriptions, credit hours, field trips, subjects presented, names of guest speakers, and materials used for instructional purposes. Based upon the evaluation by students, faculty, and administration, the program is considered successful. The majority of participants have gone on to graduate schools and were able to obtain graduate followships and scholarships. (MF)

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Final Report

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UNDERGRADUATE RESEARCH TRAINING PROGRAM

Dakota Wesleyan University

Mitchell, South Dakota

April 1, 1969

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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UNDERGRADUATE RESEARCH TRAINING PROGRAM

Introduction

Dakota Wesleyan University is a small Liberal Arts College located in East-Central South Dakota. It is affiliated with the United Methodist Church although it is non-denominational and non-sectarian in its admission policies. Enrollment including part-time students is approximately 800.

Dakota Wesleyan University was funded for an undergraduate Educational Research Training Program for the academic years 1966-67 and 1967-68. During this period a total of 17 students completed the research program. In its first year of operation the program was directed by Dr. Rex R. Shelley, Head of the Department of Education and Psychology. Dr. Shelley was replaced as Department Head and Director of the Research Program by Dr. Roger D. Ruark for the 1967-68 academic year.

As stated in the original application for a grant, the objectives of the program were as follows:

1. To introduce outstanding students to research procedures.
2. To create an appreciation in the role of research in education.
3. To stimulate faculty and students in research activities.
4. To encourage exceptional undergraduates to pursue graduate education in preparation for a career in educational research.

Description of the Program

There were ten student participants in the program during the 1966-67 year, and eight for the 1967-68 year.

Candidates for the program were selected among those students who were:

1. Members of the Junior or Senior class.
2. Were majors in Psychology, Sociology, or who planned to make teaching a career.
3. Maintained an Overall Grade Point Average of at least 3.00 on a 4.00 basis.
4. Proficient in English as determined by college marks, the Cooperative English Test or successful written usage.
5. Had completed courses or were taking concurrently courses in Educational Psychology, General Psychology and Statistics.

The final selection from among the qualified applicants was made on the basis of the applicants' ability on written expression, recommendations of faculty members, and potential ability for research work as determined by faculty evaluation.

For the 1966-67 year the program for the training of undergraduates in research followed the outline below:

First Semester

	Credit	Subject
	3 hrs.	Statistics in Ed. and Psych.
	5 hrs.	Research Method and Design
Total	8 hrs.	

Second Semester

	Credit	Subject
	8 hrs.	Independent Study
	2 hrs.	Research Seminar
Total	10 hrs.	

For the 1967-68 year the requirements for course work in Psychology and Statistics remained the same but could be taken concurrently. The schedule of classes for the 1967-68 year included 8 hours of classwork with 16 hours of outside preparation required per week. During the 67-68 year, the number of college credits given for the course were reduced from 15 to 12 but the hours of outside preparation remained the same.

DESCRIPTION OF COURSES

As outlined under the original proposal it was necessary to devise new course offerings in support of the research program.

Research Method and Design (1966-67, 1967-68)

The content of this course was substantially that outlined in our original proposal, in that it included the followings

1. The application of scientific method in the social sciences.
2. Steps of the scientific method.
3. Research techniques: review of literature, use of library, data processing equipment, sampling.
4. Research methods: historical, survey, experimental, and case study.
5. Writing research reports: form, format, preliminary pages, text, references, quotations, footnotes, bibliography, tables, illustrations, typing aids, and style.

The major requirement of the course was the design of an acceptable research project.

Research Seminar

The Research Seminar was offered during the second semester of the 1966-67 year only. A complete description of the seminar is not available, but it is assumed that students met 2 hours per week as scheduled to review progress on the research studies and to discuss research problems with faculty and visiting speakers. The seminar was discontinued during the 1967-68 year in order to devote more time to a more systematic study of research method and design than could be afforded in one semester.

Individual Study

Credits for individual study were offered during the 1966-67 school year but were discontinued during the 1967-68 year because of an increased maturity of the class and because of a belief that individualized study was an inherent part of the program and that separate credit should not be allowed. The expectations for continued outside work under faculty supervision was continued.

DESCRIPTION OF PROCEDURES AND MATERIALS

Activities carried on during the 1967-68 year included a field trip in March, 1968, to the Computer Center of the University of Nebraska, and to the Computer Center of the University of South Dakota. Faculty members from Dakota Wesleyan University were frequently called in as guest speakers. These included the following: Dean Thomas Henson, who spoke on statistical applications to research; Mr. William Coates, Acting Head, Department of Sociology, who spoke on methods in sociological research; Dr. Yu San Wang, Head, Department of History,

who lectured on descriptive research with emphasis on History; Mr. Merlin Gramm, Assistant Professor of Psychology, who discussed testing and institutional research; Mr. Wilbert Doescher, Head, Department of Mathematics, who spoke on the application of statistical methods to research problems. Mr. DeLayne Dalton, Department of Education and Psychology at the University of South Dakota, spoke to the class on computerized treatment of research data.

Other college faculty members who assisted in the program as research advisors, in addition to the Dakota Wesleyan University staff mentioned above, included Dr. Howard Bailey, Department of Religion and Philosophy, and Mrs. Mae Stewart, Instructor in the Department of Education and Psychology.

The direction of the total program during the 1967-68 year was the responsibility of Dr. Roger D. Ruark, Head, Department of Education and Psychology. In addition, Dr. Ruark assumed the major instructional responsibility for the course, Research Method and Design.

Materials utilized for instructional purposes included two textbooks:

Best, John W.
Research In Education
Prentice Hall, Inc.
1959

Barnes, Fred P.
Research For the Practitioner In Education
National Education Association
1964

ERIC documents and microfiche, as well as microfilms from University Microfilms, were ordered and made available to the students in the program. A number of reference books were also purchased for student use.

Evaluation of the Program

The research training program was slightly modified during the second year of operation. These changes included the following:

1. A broadening of the scope of research activities to include, in addition to education, psychology, and sociology, research topics in the areas of history and economics. This expansion was made in order to expose all members of the research class to as many types of research activities as possible. This was provided for by feed-back in class and in seminars by discussion of research proposals, progress reports, and of individual problems that arose during the year.
2. A change was made in the total number of hours of credit to be earned by the students who were enrolled in the research program. The number of semester hours for the research courses alone were reduced from 15 to 12 without any change in clock hours of class seminars and independent study. This was done because of a belief that the courses were over-weighted in relation to the total college curriculum.

Based upon the evaluation by students, faculty, and administration, it was felt that the objectives of the program had been attained. This is attested to by the favorable comments of participants as to the value of the program, and by the fact that a great majority of the students in the research program have gone on to graduate schools and have continued to exhibit an interest in research. It is notable that as a result of their undergraduate research experiences, these students have been able to obtain choice graduate fellowships and scholarships.

The most important changes that would be made if the research program were to be offered again would be to place more emphasis upon experimental research methods and design, and to make greater use of outside consultants. One weakness in the total program was a complete lack of communication among the various colleges and universities engaged in the undergraduate research program.

Program Reports (1967-68)

1. Application Summary

a. Approximate number of inquiries from prospective trainees (letter of conversation)	21
b. Number of completed applications received	11
c. Number of first rank applications (Applicants who are well-qualified whether or not they were offered admission	9
d. How many applicants were offered admission	8

2. Trainee Summary

a. Number of trainees initially accepted in program	8
Number of trainees enrolled at the beginning of program	8
Number of trainees who completed program	8
b. Categorization of trainees	
(1) Number of trainees who principally are elementary or secondary public school teachers	none
(2) Number of trainees who are principally local public school administrators or supervisors	none
(3) Number of trainees from colleges or universities, junior colleges, research bureaus, etc. (specify)	none

3. Program Director's Attendance

a. What was the number of instructional days for the program?	102
b. What was the percent of days the director was present?	98%

Student Participants, 1966-67

NAME	CREDIT HOURS 1st semester	GRADE	CREDIT HOURS second semester	GRADE
Ruth Ellen Birrel	5	A	10	A
John Robert Bittner	5	A	10	A
David Lowell Knight	5	A	10	A
Mrs. Anne Ilene Kunze	5	A	10	A
Gerald Allan Neumann	5	D	withdrew	
Larry Glen Scott	5	A	10	A
Sam Paul Simone	5	A	10	A
Edward David Stone	5	A	10	A
Edward Kothe	5	A	10	A
Jack Cooper	5	A	10	B
Richard Wood	5	A	withdrew	

First Semester - Course Title: Research Method and Design Ed. 450-5 hrs.

Second Semester - Course Title: Research Project Ed. 403-7 hrs.
Research Seminar Ed. 402-3 hrs.

Student Participants, 1967-68

NAME	CREDIT HOURS 1st semester	GRADE	CREDIT HOURS second semester	GRADE
Mahlon Bainbridge	5	A	7	B
Elmer Brinkman	5	A	7	A
Eric Coates	5	A	7	A
David Lyman	5	A	7	A
Michael Mayclin	5	A	7	A
Curtis Rees	5	A	7	B
Edward Kent Thomas	5	A	7	A
Lyle Wendell	5	A	7	A

First Semester - Course Title: Research Method and Design Ed. 401-5 hrs.

Second Semester - Course Title: Research Method and Design Ed. 402-5 hrs.
Research Project Ed. 403-2 hrs.

Titles of Research Papers
1966-67

Ruth Ellen Birrel - A Comparative Study of the Temperaments of a Group of Delinquents and a Group of Non-Delinquents.

John Robert Bittner - A Comparison and Analysis of the Value Profiles of Dakota Wesleyan University and Southern State College.

Mrs. Anne Ilene Kunze - A Longitudinal Analysis of the Freshman Class of 1962 at Dakota Wesleyan University.

Larry Glen Scott - An Investigation of Educational Attitudes and Performance Found Among Persons of Different Ethnic groups.

Sam Paul Simone - An Evaluation of the Teacher Education Program at DWU.

Edward David Stone - Mitchell Public Schools Grade Three, Five, Seven, Nine, Eleven Student Bodies and Gifted Students Compared With National Norms.

Edward Kothe - A Study of Falsification of Academic Test Results.

Jack Cooper - A Historical Research on the Sheldon Territorial School.

Titles of Research Papers
1967-68

Mahlon Bainbridge - A Comparative Study of Hereford and Hereford-Charolais Crossbreds As Related To Certain Beef Carcass Characteristics.

Elmer Brinkman - A Longitudinal Comparison of Differences in Reading and Intelligence Between Two Social Classes in Sixth Grade at Argonne and Howard.

Eric Coates - The Relationship Among Scores on the Nelson-Denney Reading Test, Scores on the ACT English and Composite Sections, and the Cumulative Grade Point Average.

David Lyman - A Study of Vocational Aspirations of Seventy-five DWU Students Related to Certain Environmental Variables.

Michael Mayclin - A Comparative Motivational Analysis of Married and Unmarried Students at DWU.

Curtis Rees - A Review of the Navigation Control Controversy of the Missouri River Based on the Case Papers From 1951 to 1962.

Edward Kent Thomas - A Statistical Investigation of the Predictive Efficacy of the Composite, English, and Mathematics Scores of the ACT Test with Specific Reference to Grade Point Average Earned at DWU and High School Rank.

Lyle Wendell - A Study of the Agricultural Real Estate Property Tax, With Emphasis on the Incidence to Net Farm Income of Residential Farm Operations in South Dakota.

Financial Report

	Expended		
A. Trainee Support	9-1-66 to 6-30-67	9-1-67 to 6-30-68	9-1-66 to 6-30-68 2 year total
1. Stipends	$5,000.00	$4,000.00	$9,000.00
2. Dependency Allowance	0	0	0
3. Travel	346.80	459.82	806.62
B. Direct Costs			
1. Personnel	2,773.53	2,375.89	5,149.42
2. Supplies and Equipment	827.56	177.01	1,004.57
3. Travel	250.00	229.83	479.83
4. Other	345.36	464.55	809.91
C. Indirect Costs	None	None	None
Total Expended:	$9,543.25	$7,707.10	$17,250.35
Total Funds Received:	9,000.00	9,000.00	18,000.00
Amount Returned to Educational Research Program			$ 749.65